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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RICHARD HENRY DEE

Appeal 2007-3484
Application 09/894,378
Technology Center 2600

Decided: [March 25, 2008

Before ANITA PELLMAN GROSS, CARLA M. KRIVAK, and KARL D.
EASTHOM, *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from the Final Rejection of claims 3-7 and 10-14. Claims 1-2 and 8-9 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Appellant's claimed invention relates to a spin valve sensor apparatus having first and second spin valve sensors and at least one flux guide. The flux guide is shared between the first spin valve sensor and the second spin valve sensor. (Spec. 23-24).

Appellant groups claims 3-7 and 10-14 together (Br. 3). Thus, in accordance with 37 C.F.R. § 41.37(c)(1)(vii), we group claims 3-7 and 10-14 together and treat independent claim 3 as the representative claim.

Claim 3 is illustrative of the invention and reads as follows:

3. A spin valve sensor apparatus, comprising:
 - a first spin valve sensor;
 - a second spin valve sensor; and
 - at least one flux guide, wherein a flux generated by the at least one flux guide is shared between the first spin valve sensor and the second spin valve sensor to thereby reduce a sensitivity of the spin valve sensor apparatus.

The Examiner relies on the following prior art references to show unpatentability:

Cain	US 5,493,467	Feb. 20, 1996
Suzuki	US 6,134,078	Oct. 17, 2000

Claims 3-7 and 10-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki in view of Cain.

Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the Brief and Answer for the respective details. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant could have made but chose not to

make in the Brief have not been considered and are deemed to be waived, *see* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE

Under 35 U.S.C § 103(a), with respect to appealed claim 3, would one of ordinary skill in the art at the time of the invention have found it obvious to combine Suzuki and Cain to render the claimed invention unpatentable?

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). “[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Furthermore, “‘there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness’ . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

ANALYSIS

With respect to the Examiner's 35 U.S.C. § 103(a) rejection of appealed independent claim 3 based on the combination of Suzuki and Cain, Appellant asserts a failure to set forth a prima facie case of obviousness based on the failure of the combination to teach the claim element "to thereby reduce a sensitivity of the spin valve sensor apparatus," and a lack of combinability of the applied references (Br. 4-7). After careful review, we are not persuaded that the Examiner erred in the determination of obviousness.

Turning first to Appellant's assertion that Suzuki's apparatus "is not a reduced sensitivity apparatus" (Br. 5), we note that Suzuki discloses a yoke structure 4 (Figs. 3-4). Appellant admits that "[t]he yoke style, *while less sensitive*, has advantages in that it is more reliable." (Br. 7) (emphasis supplied). In a similar vein, the Examiner cited Suzuki (Ans. 3) (citing column 1, lines 27-28) as teaching that yoke structures reduce sensitivity over prior art MR sensors without yokes. We concur with the Examiner and find that Suzuki's structure makes clear that a yoke structure reduces sensitivity as compared to prior art MR sensors (col. 1, ll. 27-30).¹

Further, as the Examiner finds, "it is inherent in the reference that by sharing the flux between the first sensor and the second sensor it reduces a

¹ Appellant's statement that Suzuki's sensors are only less sensitive as compared to prior art spin valve sensors (Br. 5) not only is unsupported by evidence, but also does not address why the combination of Suzuki and Cain as proposed by the Examiner (employing Suzuki's yoke) fails to meet the limitation of "to thereby reduce a sensitivity of the spin valve sensor apparatus."

flux injection efficiency of the sensor apparatus.” (Ans. 3). The Examiner’s finding is not challenged by Appellant. To the contrary, we find that it is supported by the Specification whereat Appellant describes flux sharing in a prior art read head as reducing flux injection efficiency which reduces the propensity for saturation, and consequently, reduces the sensitivity of a dual spin valve sensor apparatus as compared to a single spin valve sensor apparatus (Spec. 24: 1-16).

Turning next to Appellant’s assertion that the references are not combinable, we find no evidence and/or arguments advanced by Appellant which convinces us of any error in the Examiner’s finding that one of ordinary skill in the art would have been motivated to use Cain’s spin valve sensors in Suzuki’s device in order to eliminate dependency on the direction of the sense current (Ans. 4). The statement that “the dependency on the direction of the sense current is a necessary trade off and not a strict advantage” (Br. 6) does not defeat the Examiner’s finding of motivation. Appellant offers no evidence or argument regarding how or why a tradeoff defeats the finding of motivation.

Appellant’s argument that “spin valve sensors are too sensitive” to read older media (Br. 4) is not material to the proposed combination. That is, Appellant advances no evidence that the combination of Suzuki and Cain would result in a structure unable to read such media; moreover, the claim does not require such media.

Appellant's related argument that "the present invention addresses this problem by providing a reduced sensitivity spin valve sensor" is also not material to the proposed combination. (Br. 4). That is,

the problem motivating [Appellant] may be only one of many addressed by the [application's] subject matter. The question is not whether the combination was obvious to the [Appellant] but whether the combination was obvious to a person with ordinary skill in the art....

...Common sense teaches...that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle. Regardless of Asano's primary purpose, the design provided an obvious example of an adjustable pedal with a fixed pivot point...The idea that a designer hoping to make an adjustable electronic pedal would ignore Asano because Asano was designed to solve the constant ratio problem makes little sense.

KSR, 127 S. Ct. at 1742.

In other words, regardless of Appellant's motivation, or, Suzuki's or Cain's primary purpose, we determine that one of skill would have recognized, in light of Suzuki's teaching of a desire for sensitivity and reliability, that employing Cain's more sensitive but "familiar" (*see id.*) spin valve MR sensors would have been obvious not only for the reason put forth by the Examiner, but further in order to overcome Suzuki's reduced sensitivity attributed to the yoke structure, and at the same time, to maintain Suzuki's reliability also attributed to the yoke structure. "[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way,

using the technique is obvious unless its actual application is beyond his or her skill.” *KSR*, 127 S. Ct. at 1740.

On the other hand, one of skill also would have recognized that if the prior art spin valve sensors are too sensitive, “common sense teaches” that it would have been obvious to make the sensor structure less sensitive by employing the overly sensitive sensors with the sensitive reducing yoke of Suzuki because “any need or problem known in the field...can provide a reason for combining the elements in the manner claimed.” *KSR*, 127 S. Ct. at 1742.

We also note that Suzuki’s MR sensor is structurally similar to Cain’s structure. Each sensor comprises a conductive layer sandwiched between two other magnetic or ferromagnetic layers (Suzuki, col. 3, ll. 1-7; Cain, col. 5, ll. 31-37). Such similarity in structure and function constitutes further evidence of a reason to combine the references (i.e., Suzuki’s sensor is a “familiar item[.],” *see* 127 S.Ct. at 1742).

Appellant’s further arguments that “MR sensors cannot be spin valve sensors” and “are mutually exclusive” (Br. 4) are not supported factually. For example, Cain refers to “a spin valve MR” (col. 2, l. 39). Hence, we concur with the Examiner’s finding that MR sensors include spin valve sensors (Ans. 4). We also find no factual support for Appellant’s related argument that the “substitution as proposed by the Examiner would require radical modification of Suzuki because Suzuki is an MR sensor device, not a spin valve sensor device” (Br. 6). As noted, Cain implies that spin valves

are a type of MR sensor, and Appellant provides insufficient evidence supporting the assertion of a required radical modification.

In view of the above discussion, since it is our opinion that the Examiner's prima facie case of obviousness has not been overcome by any convincing arguments from Appellant, the Examiner's 35 U.S.C. § 103(a) rejection, based on the combination of Suzuki and Cain, of independent claim 3, as well as claims 4-7 and 10-14, grouped therewith, is sustained.

CONCLUSION

In summary, we have sustained the Examiner's 35 U.S.C. § 103(a) rejection of all of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 3-7 and 10-14 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

Appeal 2007-3484
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tdl/gw

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